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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/556,392

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Helmut Winterling

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6284

30678

7590

07/14/2008

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EXAMINER

LISTVOYB, GREGORY

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/556,392	<b>Applicant(s)</b> WINTERLING ET AL.	
	<b>Examiner</b> GREGORY LISTVOYB	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7 and 9-15 is/are rejected.
- 7) ☒ Claim(s) 4-6 and 16-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

Due to error in document identification in the previous Office Action (Fischer et al reference is US 6359178 instead of previously cited US 6297394) Final rejection filed on 3/25/2008 is withdrawn. The present Office Action is Final Office Action, necessitated by Amendment.

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 9-15 are rejected under 35 U.S.C. 102/103 as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hayes et al (US 6075117) herein

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Hayes as evidences by Fischer et al (US 6359178) herein Fischer (necessitated by amendment).

Hayes discloses a process for producing a polyamide by hydrolysis of adiponitrile (ADN) at the presence of hexamethylenediamine (HMDA) and adipic acid (AA) (see Abstract and Example 10).

Hayes does not disclose a polyamide having 0.08-2mo1% of 1-amoino-2R- cyclopent-1-ene.

As evidences by Fischer, commercial ADN, prepared by conventional process of reacting butadiene and hydrocyanic acid contains large amount of 1-amino-2-cyanocyclopentene (ACCP). Even purified, ADN contains 10-5000 ppm of ACCP (see Column 5, line 30).

Since Hayes teaches the process based on commercial ADN without additional purification, the content of ACCP is inherently higher than 5000 ppm (which is within the range of 0.08%-2 mol %).

Since ACCP has the same functional group as the main reagents (ADN) and HMDA), it inherently present in the main chain of the resulting polyamide.

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Alternatively, it would have been obvious to a person of ordinary skills in the art with reasonable expectation of success that amount of ACCP in commercial ADN and resulting polyamide is within the range of 0.08-2% mol.

Claim 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes et al (US 6075117) herein Hayes in combination with Ogo (US 6117942, cited in the previous Office Action), as evidences by Fischer et al (US 6359178) herein Fischer (necessitated by amendment).

Hayes discloses a process for producing a polyamide by hydrolysis of adiponitrile (ADN) at the presence of hexamethylenediamine (HMDA) and adipic acid (AA) (see Abstract and Example 10).

Hayes does not disclose a polyamide having 0.08-2mo1% of 1-amino-2R- cyclopent-1-ene.

As evidences by Fischer, commercial ADN, prepared by conventional process of reacting butadiene and hydrocyanic acid contains large amount of 1-amino-2-cyanocyclopentene (ACCP). Even purified, ADN contains 10-5000 ppm of ACCP (se Column 5, line 30).

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Hayes and Fischer do not teach a polyamide comprising 2-Methyl-1,5- diaminopentane (MDAP).

Ogo teaches a polyamide comprising HMDA and MDAP (see Reference Example 1 ).

It is notoriously well known that use of branched monomers leads to decreasing of polymer crystallinity. The use of branched MDAP leads to a polymer with lower melting point and thus, required lower energy to process the polymer.

Therefore, it would have been obvious to a person of ordinary skills in the art to introduce MDAP into Hayes polyamide in order to enhance processability of the polyamide.

### ***Allowable Subject Matter***

Claims 4-6 and 16-18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art is Fischer (see discussion above). Fischer teaches 1-amino-2-cyanocyclopentene (ACCP), which is meets limitations of Claim 1, claiming 1 -amino-2-R-cyclopent- 1 –ene (in Fischer's case R is cyano group). However, Fischer does not teach R as nitrile, carboxylic acid and carboxylic ester.

***Response to Arguments***

Applicant's arguments with respect to claims 1-3, 7-15 have been considered but are moot in view of the new ground(s) of rejection.

All Applicant's arguments drawn to the new limitations of Claim 1, narrowing the amount of ACCP in a polyamide. New references (Hayes and Fischer) disclose a polyamide having higher amount of ACCP in a polyamide, meeting the limitations of amended Claim 1.

Regarding Arguments mailed on 6/24/2008, Examiner agrees that US 6297394 does not disclose ACCP content within the claimed range. Therefore, the new reference of Fischer (US 6359178, necessitated by Amendment) is introduced.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY LISTVOYB whose telephone number is (571)272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rabon Sergent/



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Primary Examiner, Art Unit 1796

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